

REMARKS

Claims 1-7 are pending in this application. Claims 1 and 7 are independent claims.

Double Patenting

Claim 1 has been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,617,898. Applicants respectfully traverse this rejection.

Claim 1 has been amended to include, "wherein the pulse signal from the pulse generator is fed into a voltage conversion section". Applicants may file a Terminal Disclaimer at a later time pending outcome of all other rejections.

Claim Objection

Claim 7 has been objected to as being of improper dependent form. Accordingly, claim 7 has been re-written into independent form. Applicants request that the objection be withdrawn.

Claim Rejection - 35 USC 112

Claims 1-7 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Accordingly, claims 1 and 4 have been amended.

Claim 1 has been amended to include a "voltage conversion section" as a feature that provides functions aside from those provided by the pulse generator.

Claim 4 has been amended to replace "optimum" with "medium". The word "medium" is based on the present specification which defines optimum operating voltage as, "the center value of the

variable range of the output voltage VINT" (Specification at page 22, lines 2-6).

Applicants respectfully request that the rejection be withdrawn.

Claim Rejection - 35 USC 102

Claims 1 and 7 have been rejected under 35 U.S.C. 102(b) as being anticipated by Ziegler et al. (U.S. Patent 4,848,923). Applicants respectfully traverse this rejection.

Claim 1 is directed to a voltage conversion circuit comprising a pulse generator for generating a pulse signal having a fixed pulse width at variable pulse periods, wherein the pulse signal from the pulse generator is fed into a voltage conversion section whereby an output voltage from the voltage conversion section is determined according to a ratio of the pulse width to the pulse period of the pulse signal generated by the pulse generator. For example, the claimed pulse generator is composed of a reference pulse generator 101, a delay circuit 102, and a delay time controller 3. Such a configuration enables the generation of the pulse signal having a fixed width and a varied period without the need for an input.

Ziegler fails to teach or suggest a pulse generator for generating a pulse signal having a fixed pulse width and varied period signal. The pulse generator 5 of Ziegler is coupled to an oscillator 3 and the oscillator 3 itself creates a variable frequency. The pulse generator 5 of Ziegler receives the variable frequency of the oscillator 3 in order to output variable pulse gaps. Thus, the pulse generator 5 of Ziegler in and of itself fails to have the means for generating a pulse signal having a fixed width and a variable period because without the oscillator 3,

the pulse signal from the pulse generator 5 of Ziegler would not have a variable period.

Ziegler also fails to teach or suggest that the pulse signal from the pulse generator is fed into a voltage conversion section whereby an output voltage from the voltage conversion section is determined according to a ratio of the pulse width to the pulse period of the pulse signal generated by the pulse generator. The Office Action states that Ziegler discloses that an output voltage from apparatus 9 is determined according to a ratio of the pulse width to the pulse period signal (via means 12 and 17), and directs our attention to Ziegler's Figs. 1a-b and 3. However, Ziegler merely discloses that the pulse gaps change as a result of a measured condition, such as temperature. Ziegler is completely silent about an output voltage from a conversion section being determined according to a ratio of the pulse width to the pulse period of the pulse signal.

Thus, at least for the above reasons, Applicants submit that Ziegler fails to teach each and every claimed element of claim 1, as well as claim 7. Accordingly, Applicants respectfully request that the rejection be withdrawn.

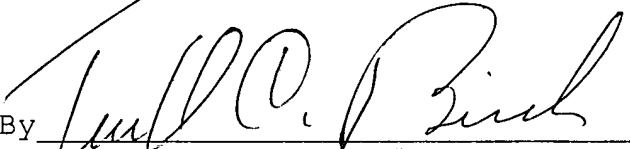
Conclusion


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert W. Downs (Reg. No. 48,222) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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TCB/RWD/mpe
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Attachment(s)